



U.S. Department of Transportation
Federal Highway Administration

An Introduction to the Safe System Approach

2023 DelDOT Winter Workshop

Monday, February 13, 2023

Dover, Delaware



SAFE SYSTEM APPROACH

Zero is our goal. A Safe System is how we get there.



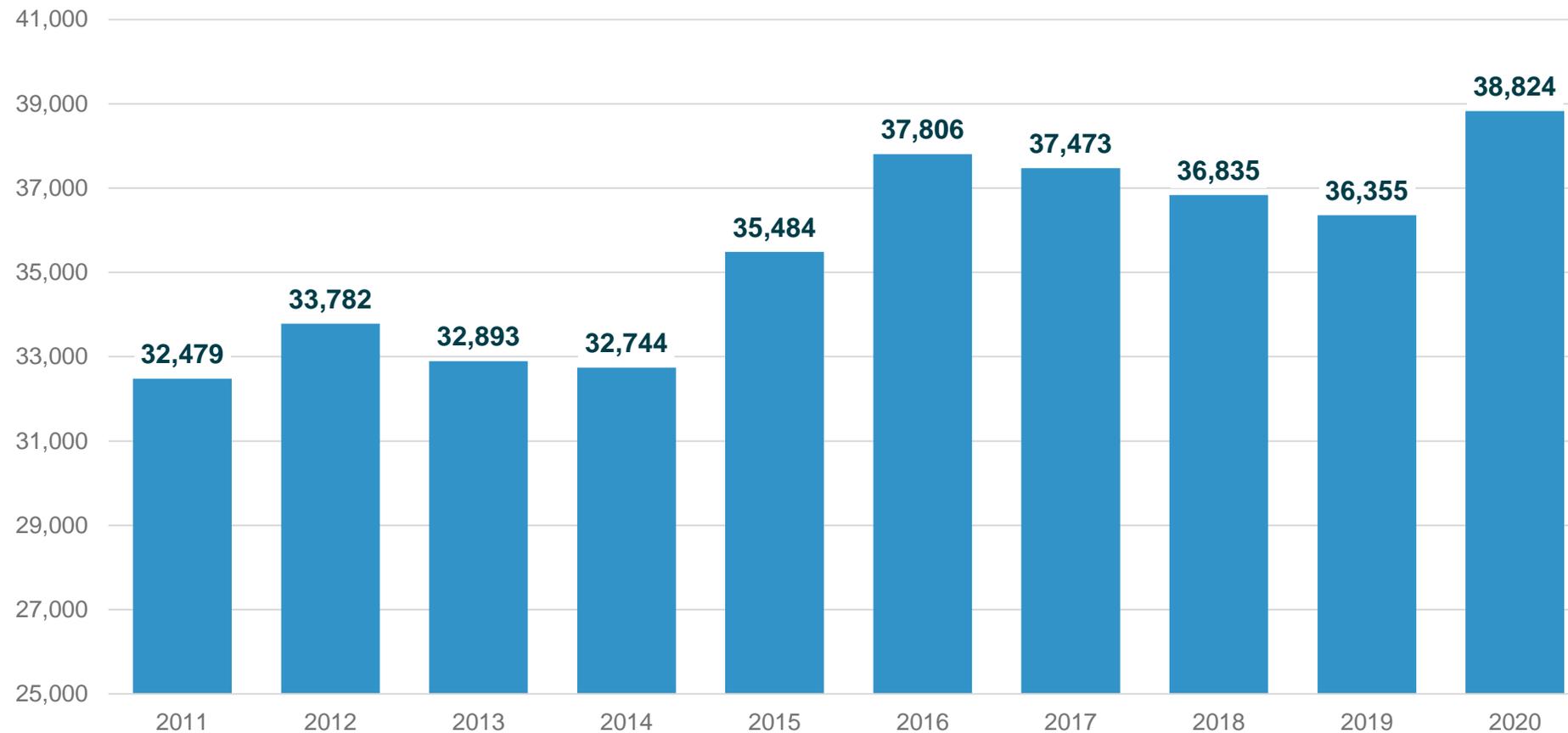
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ZERO IS OUR GOAL
A SAFE SYSTEM IS HOW WE GET THERE

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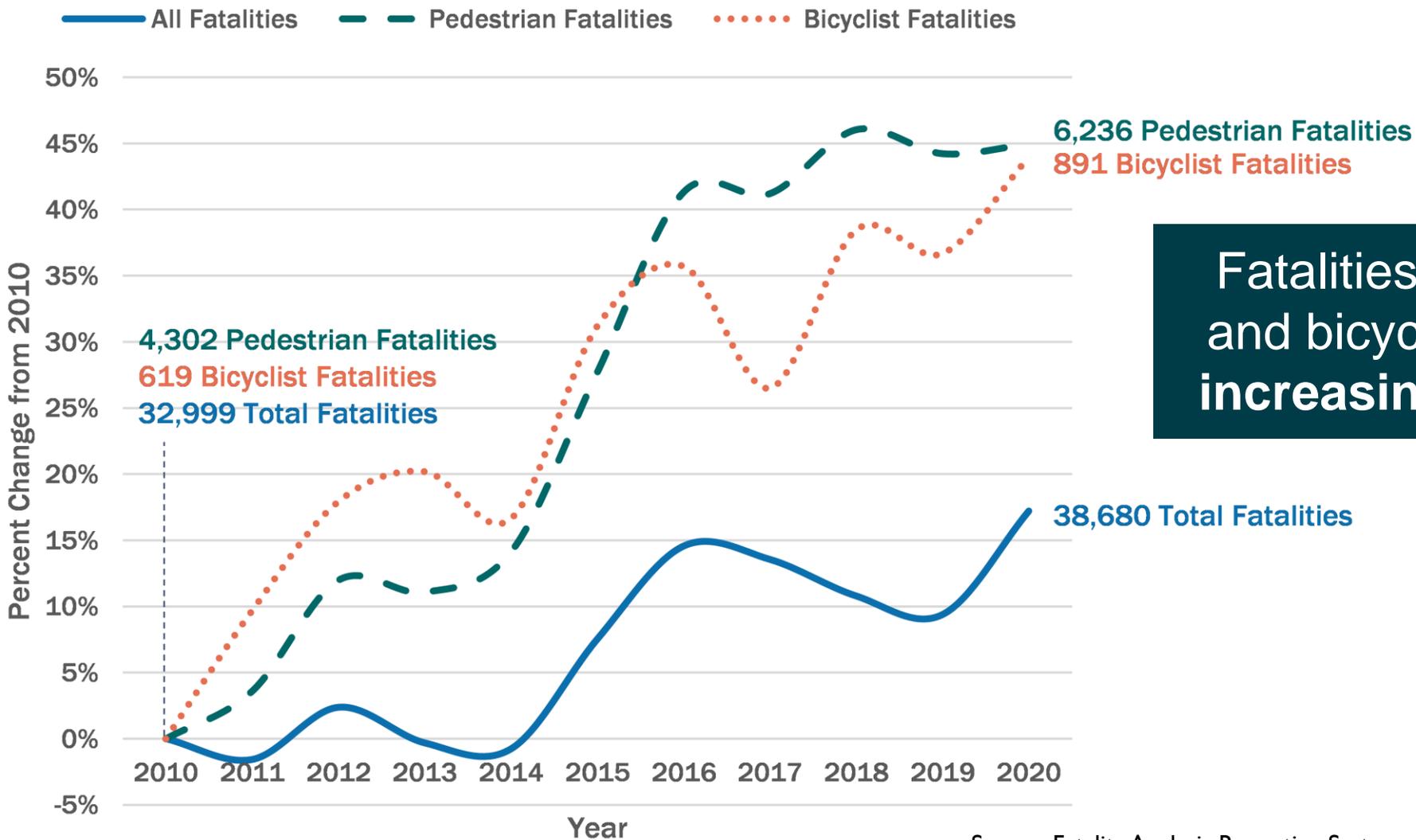
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THOUSANDS OF LIVES ARE LOST EACH YEAR



**Total US
Traffic
Fatalities**
2011-2020

WE HAVE A NATIONAL ROADWAY SAFETY PROBLEM



Fatalities of pedestrians and bicyclists have been increasing even greater

Source: Fatality Analysis Reporting System

Source: US DOT

THE SAFE SYSTEM APPROACH AS A GUIDING PRINCIPLE

PARADIGM SHIFT



It involves a paradigm shift to improve safety culture, increase collaboration across all safety stakeholders, and refocus transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

A NEW PARADIGM

The Safe System approach aims to eliminate fatal and serious injuries for all road users by:



**Accommodating
human mistakes**

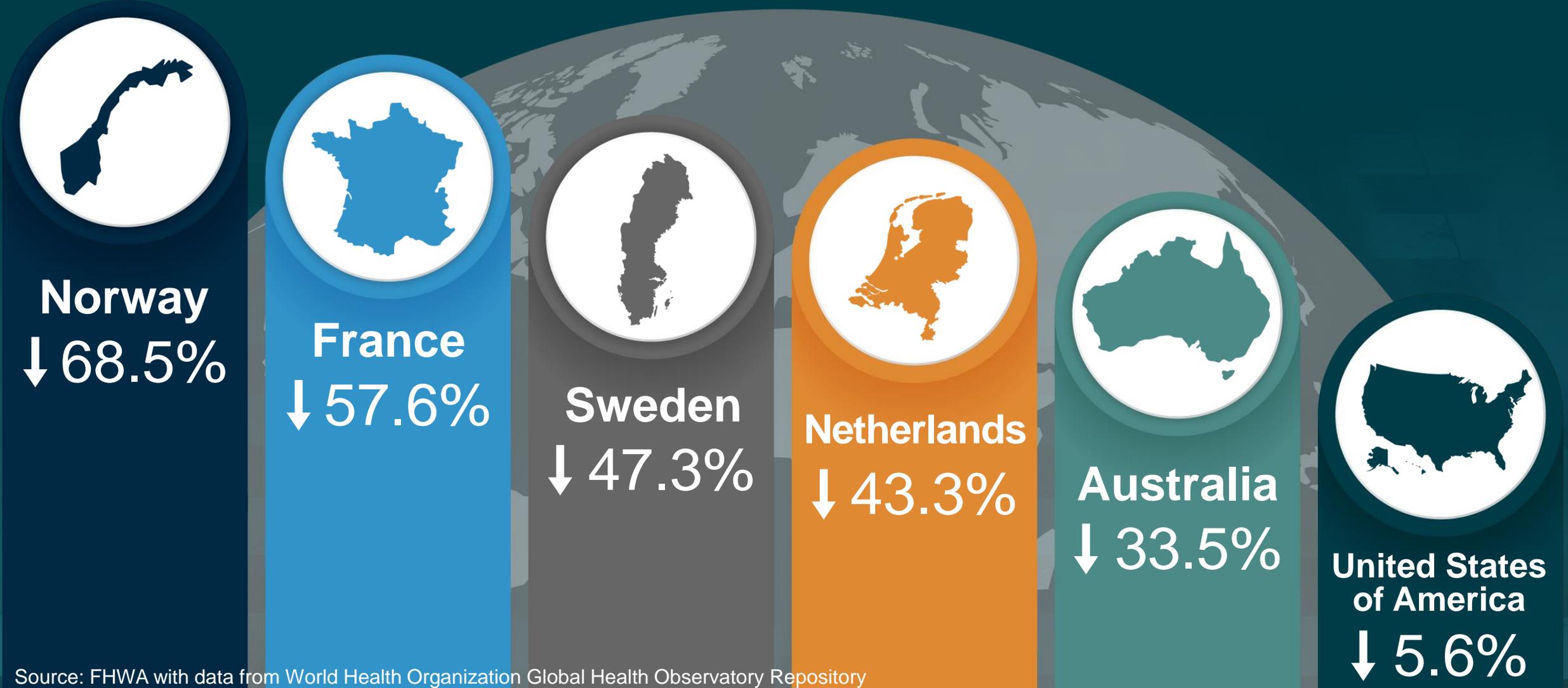
PARADIGM SHIFT ||



**Keeping impacts on the human
body at tolerable levels**

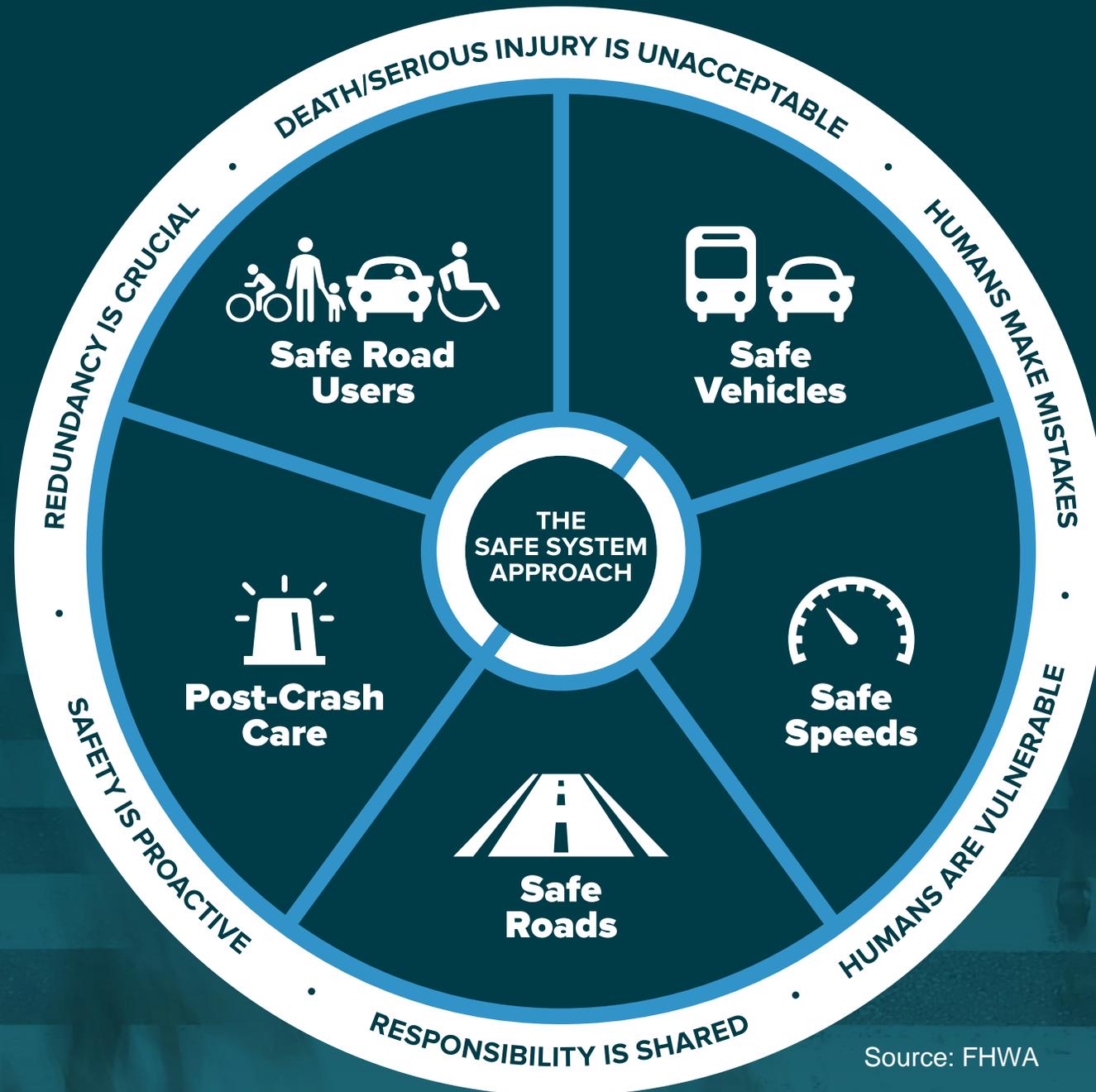
SUCCESSFUL SAFE SYSTEM ADOPTERS

Changes from 2000 to 2019.



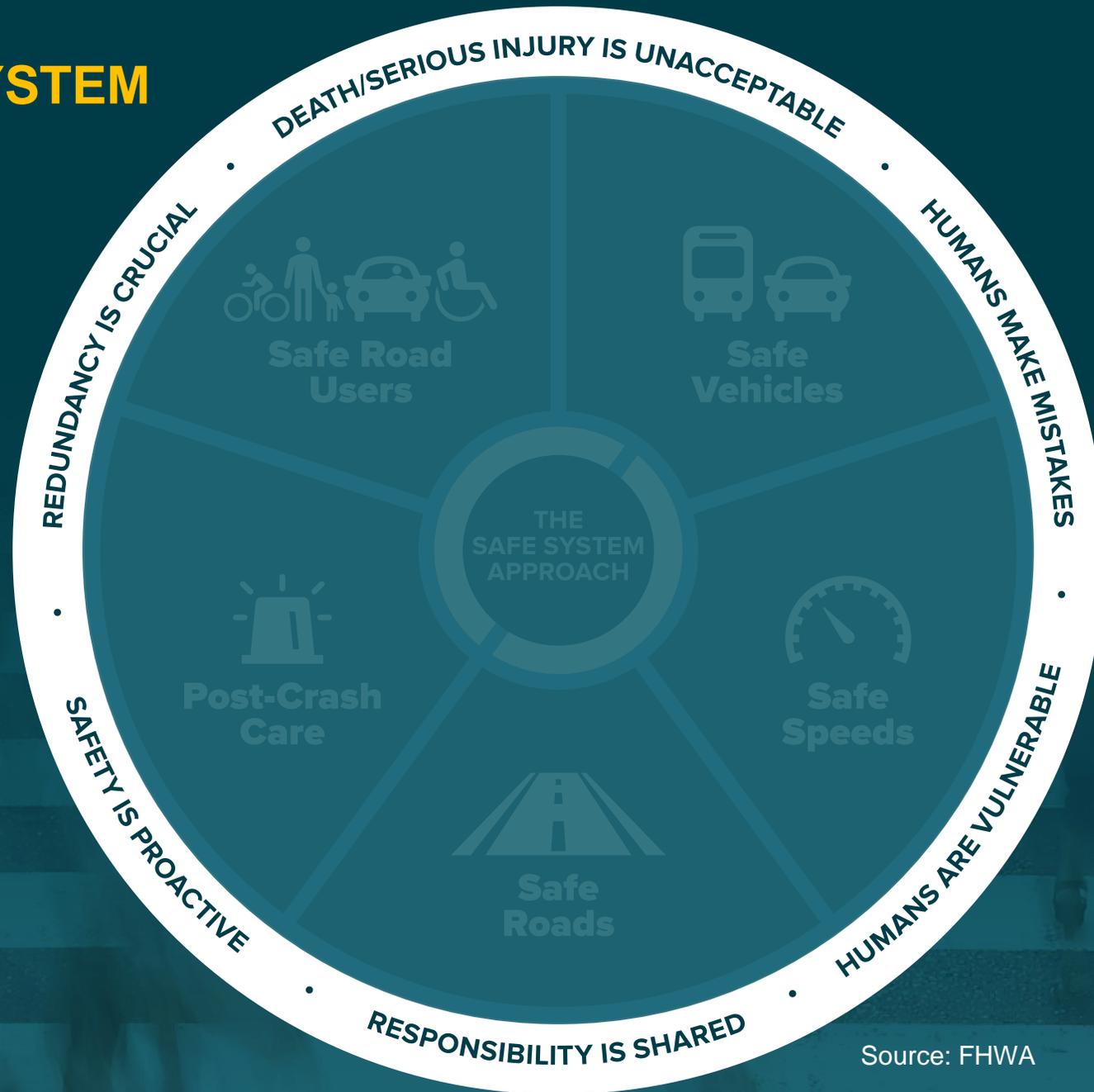
Source: FHWA with data from World Health Organization Global Health Observatory Repository

THE SAFE SYSTEM APPROACH



Source: FHWA

THE 6 SAFE SYSTEM PRINCIPLES



Death/serious injury is unacceptable



Humans make mistakes



Humans are vulnerable



Responsibility is shared



Safety is proactive



Redundancy is crucial

THE 5 SAFE SYSTEM ELEMENTS



Source: FHWA

THE 5 SAFE SYSTEM ELEMENTS CREATE REDUNDANCY

The "Swiss Cheese Model" of redundancy creates layers of protection

Death and serious injuries only happen when all layers fail



WHERE ARE YOU ON THE SAFE SYSTEM JOURNEY?

Traditional approach

Prevent crashes →

Improve human behavior →

Control speeding →

Individuals are responsible →

React based on crash history →

Safe System approach

Prevent death and serious injuries

Design for human mistakes/limitations

Reduce system kinetic energy

Share responsibility

Proactively identify and address risks



Safe System Materials

Find more resources at: safety.fhwa.dot.gov/zerodeaths

**Zero is our goal.
A Safe System is how we get there.**

Questions?



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Thank you!



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